

AMENDMENTS

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method for light signal reception, comprising the steps of:
 - (A) transmitting a light beam to a target;
 - (B) receiving the light beam reflected from the target and outputting a first received signal, wherein the received signal has at least one pulse;
 - (C) eliminating pulses smaller than a reference voltage level in the first received signal and determining whether a pulse is higher than the reference voltage level in the first received signal;
 - (D) outputting the pulse to a processor to execute operational processes when the pulse in the first received signal is higher than the reference voltage level;
 - (E) repeating the steps (A) and (B) to obtain a second received signal when, in the first received signal, no pulse is higher than the reference voltage level; and
 - (F) amplifying the second received signal and outputting to the processor to execute the operational processes.

2. (Original) The method as claimed in Claim 1, wherein the pulses smaller than the reference voltage level are eliminated by a comparison circuit in step (C).

3. (Original) The method as claimed in Claim 2, wherein the second received signal is amplified by a gain circuit in step (F).

4. (Original) The method as claimed in Claim 3, wherein the gain circuit amplifies the second received signal non-linearly.

5. (Original) The method as claimed in Claim 3, wherein the gain circuit has a feedback voltage level which is feedback from an output terminal of the gain circuit to an input terminal of the gain circuit.

6. (Original) The method as claimed in Claim 3, further comprising a step of connecting the channel selection circuit to the comparison circuit or the gain circuit selectively.

7. (Original) The method as claimed in Claim 1, wherein, in step (C), the pulses smaller than the reference voltage level are eliminated by a comparison/gain device operating in a comparison mode.

8. (Original) The method as claimed in Claim 7, wherein the second received signal is amplified in a gain mode by the comparison/gain device.

9. (Original) The method as claimed in Claim 8, wherein the comparison/gain device operating in a gain mode amplifies the second received signal non-linearly.

10. (Original) The method as claimed in Claim 8, further comprising a step of switching the comparison mode or the gain mode by a mode switching circuit.

11. (Original) A light signal receiving device, comprising:

a transmitter transmitting a light beam to a target;

a receiver receiving the light beam reflected from the target and outputting a corresponding received signal;

a comparison circuit having a reference voltage level, and receiving the received signal to determine whether a pulse is higher than the reference voltage level, in the received signal; and

a gain circuit receiving the received signal from the receiver to amplify and output a corresponding amplified signal.

12. (Original) The light signal receiving device as claimed in Claim 11, further comprising:

a processor receiving and processing the pulse or the amplified signal; and

a channel selection circuit electrically connecting the processor to the comparison circuit or to the gain circuit selectively, according to a channel selection signal.

13. (Original) The light signal receiving device as claimed in Claim 11, wherein the gain circuit has a feedback voltage level which is feedback from an output terminal of the gain circuit to an input terminal of the gain circuit.

14. (Original) A light signal receiving device, comprising:

a transmitter transmitting a light beam to a target;

a receiver receiving the light beam reflected from the target and outputting a corresponding received signal;

a comparison/gain device receiving the received signal, and processing the received signal in a comparison mode or in a gain mode; and

a mode switching device for selectively switching between the comparison mode and the gain mode of the comparison/gain device;

wherein the mode switching device provides a reference voltage to the comparison/gain device when the comparison/gain device is switched in the comparison mode by the mode switching device, and the comparison/gain device determines whether a pulse is higher than the reference voltage level, in the received signal; and the comparison/gain device produces a feedback voltage and amplifies the received signal to output an amplified signal when the comparison/gain device is switched in the gain mode by the mode switching device.

15. (Original) The light signal receiving device as claimed in Claim 14, further comprising a processor receiving and processing the pulse or the amplified signal.